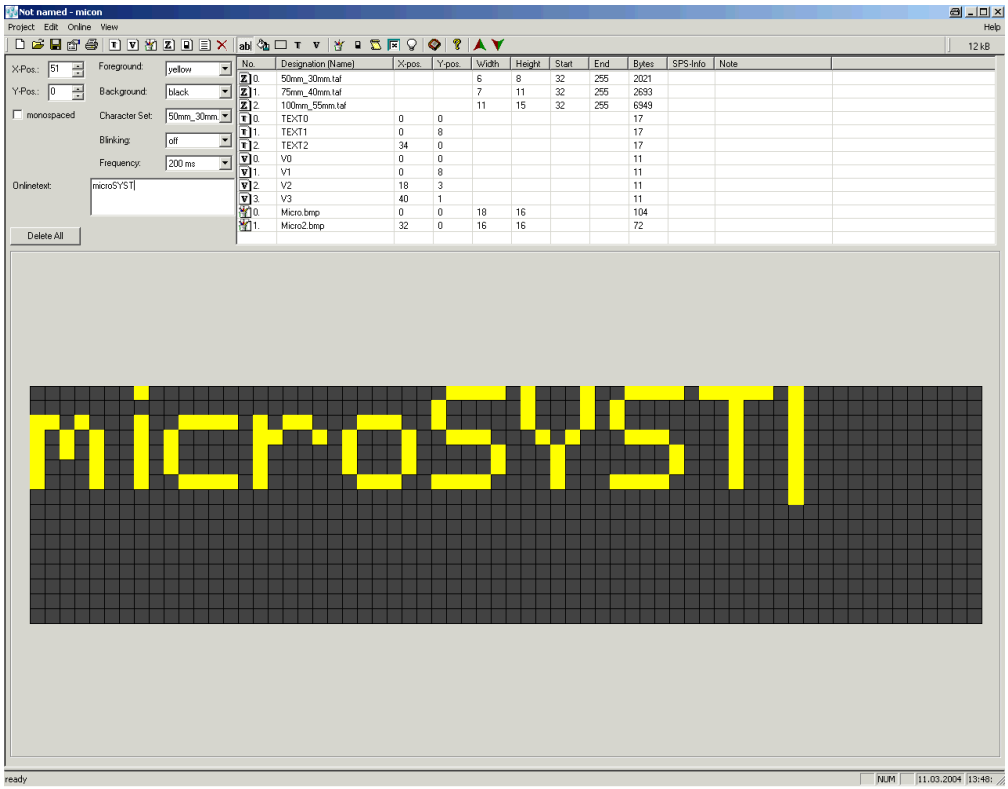
micon

PC-Software for migra

User’s Manual



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1 General

The micon PC application is used for parameters configuration and testing of migra large format displays (with software version 2.30 and higher).

Recommended system requirements:

- Operating system Windows 95/98/NT
- Pentium 133 MHz
- 32MB RAM
- SuperVGA 800x600 256 colours
- 10MB of free hard disk capacity.

Communication with the display is established via a free serial port of your PC.

In order to connect migra large format displays with RS 485 interface, usually an interface converter is required, which transforms the RS 232 signals of the PC interface to RS485 levels. Ask our sales department for a suitable model. When an interface converter is used, FIFO support must be deactivated at the utilised port to avoid timing problems with the software generated control signals. Deactivating Windows 9x FIFO support and Deactivating Windows NT FIFO support provides further information.

1.1 Deactivating Windows 9x FIFO support

Select *Settings->Control Panel* from the Windows *Start* menu and then open the *System* panel. Switch to the *Device Manager* tab. Select the utilised serial interface (COM) from the Ports section and click the [Properties] button. In the ensuing dialog box switch to the *Port Settings* tab and then press the [Advanced] button. A further dialog window is opened. Deactivate the *FIFO* checkbox and use the [OK] button to confirm the change. Reboot Windows so that the new settings can take effect.

Deactivating FIFO support is required only if an interface converter is connected! If you use the same port for other purposes (e.g. your modem), you should switch back to the original settings when you have finished migra configuration!

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1.2 Deactivating Windows NT FIFO support

Select *Settings->Control Panel* from the Windows *Start* menu and then open the *Ports* panel. Select the utilised port from the list and press the [Properties] button. In the ensuing dialog box click the [Advanced] button. A further dialog window is opened. Deactivate the *FIFO* checkbox and use the [OK] button to confirm the change. Reboot Windows so that the new settings can take effect.

Deactivating FIFO support is required only if an interface converter is connected! If you use the same port for other purposes (e.g. your modem), you should switch back to the original settings when you have finished migra configuration!

You must have administrative rights to be allowed to change the FIFO settings!

1.3 Important directions for use

- Pay attention to correct colour settings, especially when migra SC (single colour) displays are used. For example, a green text is not displayed at a single coloured red display.
- The coordinates 0, 0 apply to the top left corner of the display.
- Position and size should be carefully specified, because the respective object does not appear at the display if it does not entirely fit the display area.
- Sometimes the screen preview may not be refreshed correctly. Simply press the F5 key in such cases to do a manual refresh.

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2 First steps

2.1 Installation

Insert the installation disk resp. CD into your drive. Select the *Run* command from the Windows *Start* menu. Enter `a:setup` for installation from disk or. `d:setup` for installation from CD into the field *Open* and confirm it with the [OK] button. The *micon* setup program will be started and guides you through the installation process.
Follow the instructions on your screen.

You need administrator rights for software installation to a Windows NT/2000 system.

Important:
For executing the installed program (Windows NT/2000) the user needs write authorities on the directory in which the software is installed.

2.2 Starting the program

Double click the *micon* icon on your desktop, which has been created during setup. Or select *Programs->microSYST->micon* from the Windows *Start* menu.

When the program has started, the Properties dialog is displayed, which allows for adjusting the interface parameters and setting the *migra* large format display properties.

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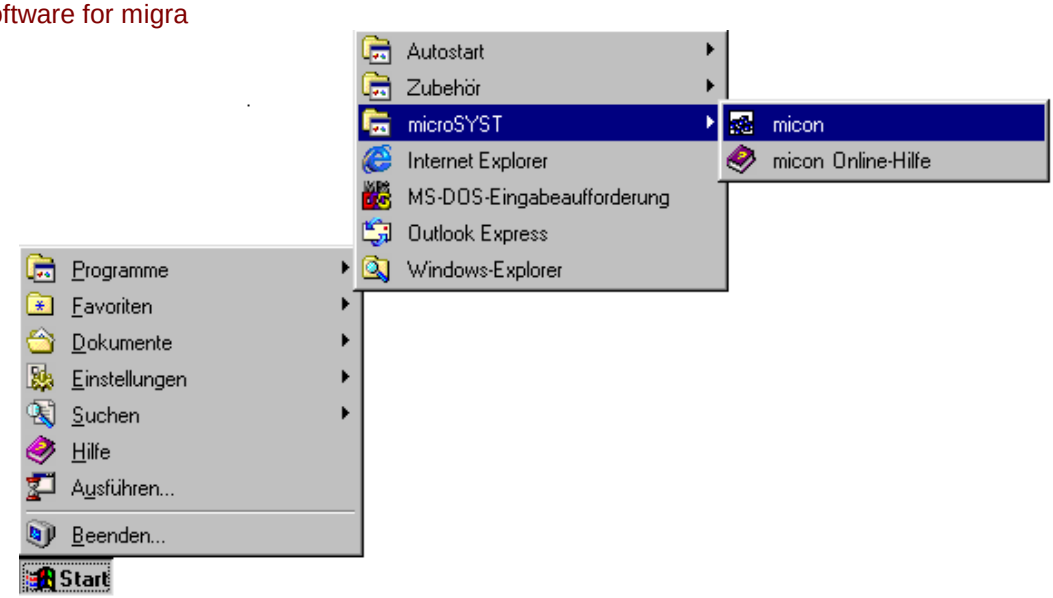

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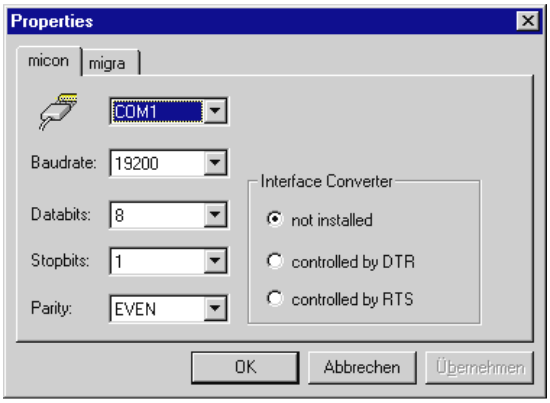
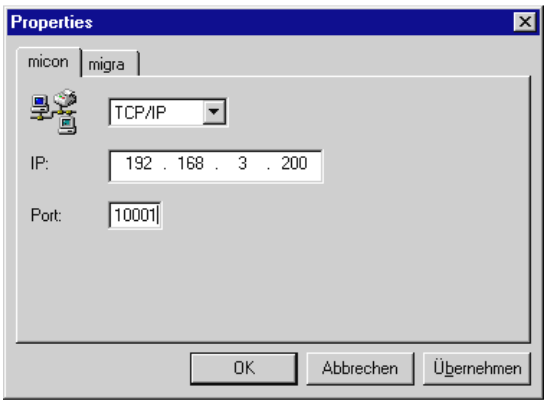
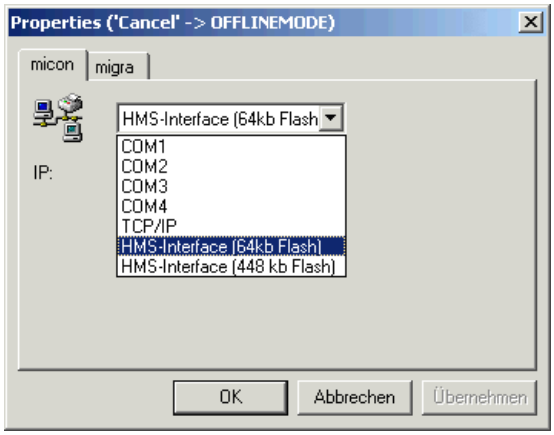
2.3 Properties dialog

This dialog allows for adjusting the interface parameters and setting the properties of your display.







The micon tab is used to adjust the interface parameters.

If you have connected the display to a serial port of your PC (COM1 - COM4), you must select the correct values for baudrate, data bits, stop bits and parity settings. Beyond this, you can determine whether an RS485 converter is used, and if that is the case, which RS232 signal is used to switch between send and receive mode.

If you use a display with a vertical resolution of more than 64 pixels, the option “controlled by RTS” must be selected.

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If your display has an Ethernet interface, then you have to adjust the TCP/IP parameters address and port.

If your display has an HMS-interface, you have to input the IP address. The port is permanently set to the value 502.
At the setting “HMS-Interface”, you can select between HMS-Interface (64kb Flash) and HMS-Interface (448kb Flash). The flash size (64KB at displays with a vertical resolution up to 64 pixels, 448KB at a vertical resolution of more than 64 pixels) is the free available flash memory of the display. If this setting is not valid, no data can be transmitted to the display. If you don’t know the size of your display’s flash memory, please contact the manufacturer.

The selected parameter settings must coincide with the settings at the migra display.

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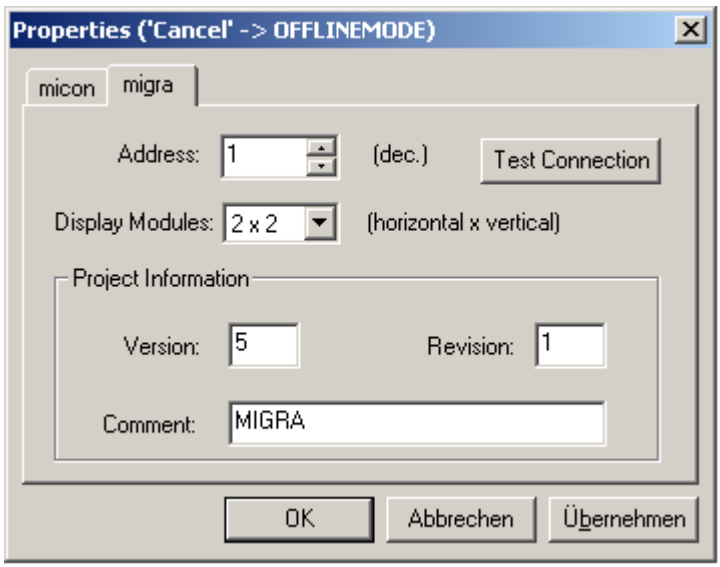

At the *migra* tab you specify the device address and the number of display modules.
Smallest unit (1x1 display modules) has 64 x 16 pixels. Please use setting “1x1” too, if you have a display with less than 64x16 pixels.

Beyond this, you can enter version number and a comment. This information is stored in the project file and the migra flash memory, making it easier to find the original project file belonging to a given migra configuration.

You can test the communication with your display by pressing the [Test Connection] button. Previously you should click the [Apply] button to make sure that the test will be performed with the current settings.

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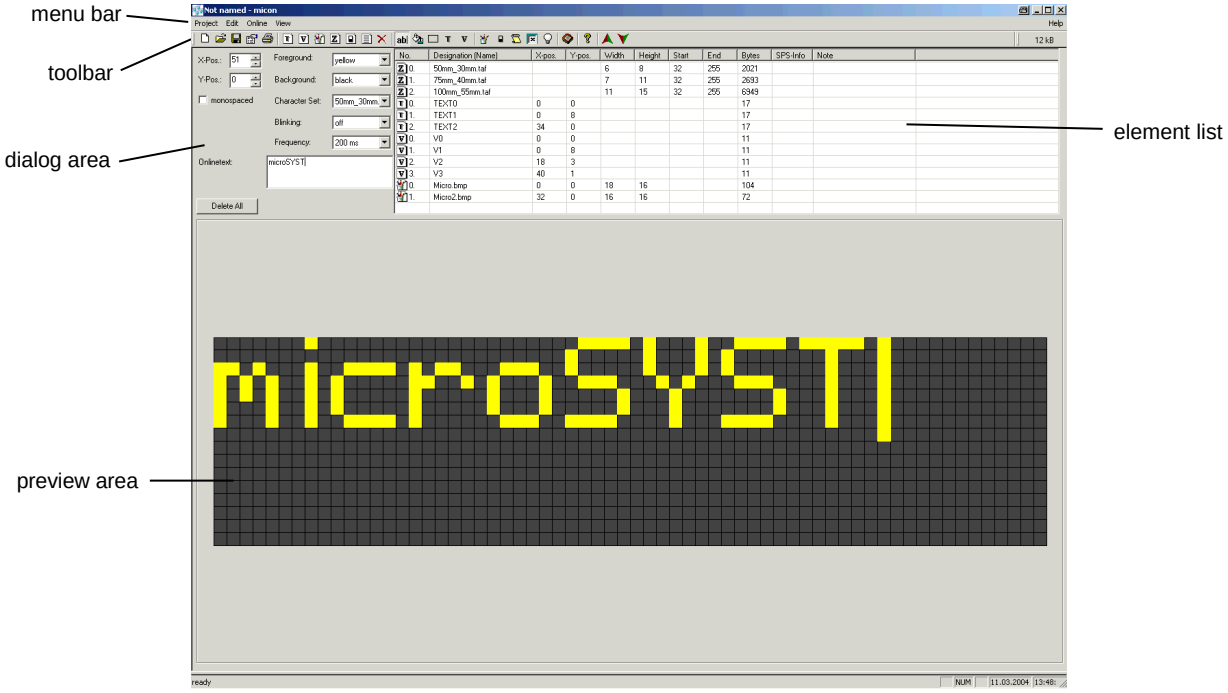
2.4 Program window



Dialog area:
The dialog area changes its appearance according to the currently selected online tool or the currently selected element in the element list and allows for the various settings and editing possibilities.

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Element list:
The element list shows all character sets, graphics, texts, variables and bargraphs defined in the current project.

Left click with the mouse on an element in the list to view or edit its properties.

If an element is double clicked, it will be shown at the display, as far as migra flash memory data coincides with the current project. If you made any changes since the last download, you are asked to send the current configuration to the display.

If an element is clicked with the right mouse-button, a menu appears with additional functions for creating new elements, for editing the data fields SPS-Info and note and for deleting the element.

Preview area:
The preview area allows for simulation of most migra commands. Thus your configuration can be extensively tested without any display connected. Some commands provide the opportunity to set x- and y-coordinates by clicking the mouse at the desired position within the preview.

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Toolbar:
The toolbar gives you quick mouse access to the most commonly used commands.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

Explanations:

1 New (`Ctrl+N`)
2 Open (`Ctrl+O`)
3 Save (`Ctrl+S`)
4 Properties (`Ctrl+Enter`)
5 Print
6 New Text
7 New Variable
8 New Graphic
9 New Character Set
10 New Bargraph
11 Macro Editor
12 Delete (`Ctrl+Del`)
13 Display Onlinetext
14 Fill with Colour
15 Draw a Rectangle
16 Show and Hide Text
17 Set and Position Variable
18 Show and Hide Graphic
19 Show and Hide Bargraph
20 Scroll vertically
21 Show Digital I/O
22 Adjust Brightness
23 Send Configuration(`F2`)
24 Online Manual (`F1`)
25 Move Element up
26 Move Element down

For further information please refer to the online help.

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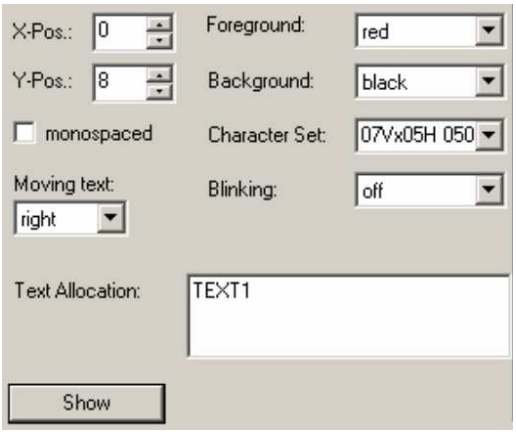
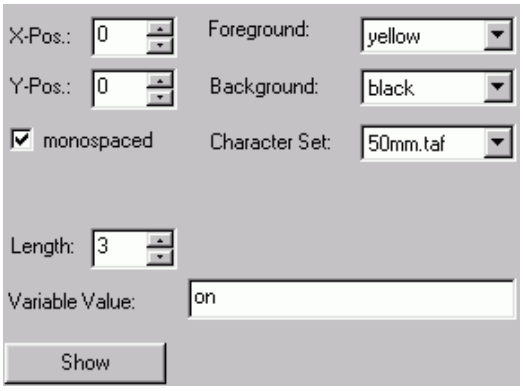
3 Editing Elements

3.1 Editing texts



This dialog is used to determine the properties of texts. At least one character set must be defined in the current project before texts can be created.
For further information please refer to the online help

3.2 Editing variables



This dialog is used to determine the properties of variables. At least one character set must be defined in the current project before variables can be created.
For further information please refer to the online help.

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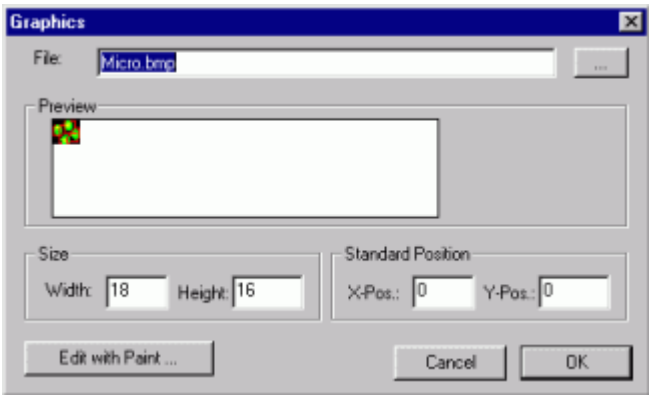
3.3 Editing graphics



This dialog is used to determine the properties of graphics.

Utilised graphics must be in the Windows bitmap format (*.bmp) with 256 colours. Only the colours black (0, 0, 0), red (255, 0, 0), green (0, 255, 0) and yellow (255, 255, 0) must be used. Bmp files can be created with almost any graphics editing program, for example "Paint", which is included with the Windows operating system.

For further information please refer to the online help.

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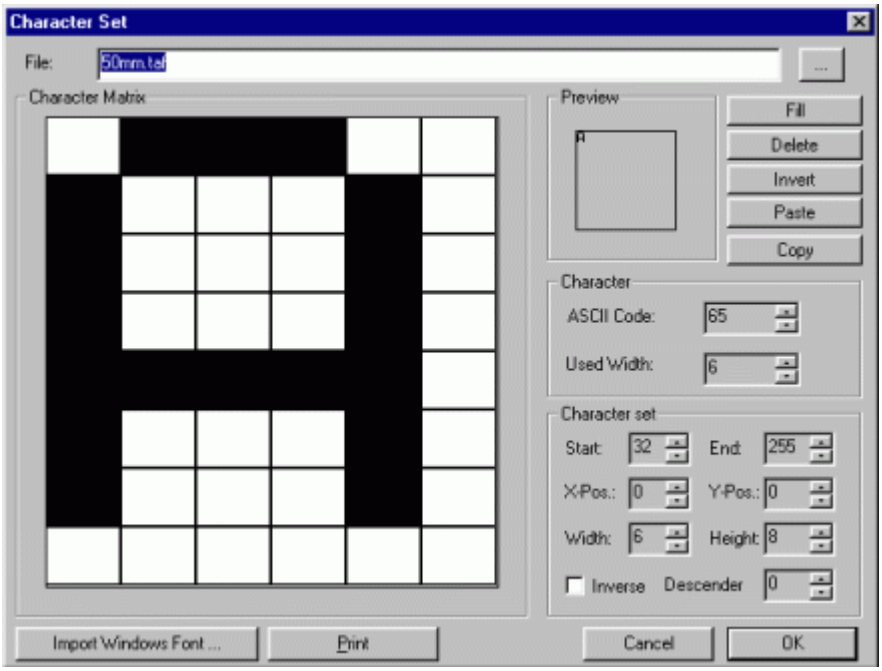
3.4 Editing character sets



This dialog is used to define new character sets or edit the properties of existing character sets.

TrueType fonts can be imported (please observe all applicable copyrights), and an extensive range of character sets is thus made available to the user.

For further information please refer to the online help.

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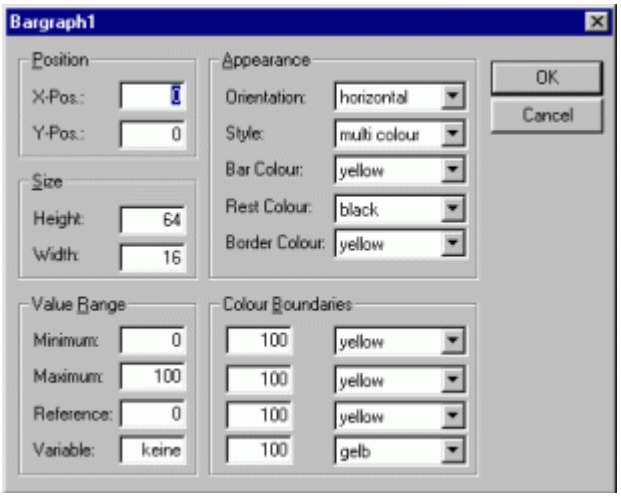
3.5 Editing bargraphs



This dialog is used to determine the properties of bargraphs.

X-Pos., Y-Pos.
Determine the position here, at which the bargraph is to be drawn.

High, Width
Determine the size of the bargraph here.

Minimum, Maximum
Determine the lowest and highest value here, which can be represented by the bargraph.

The easiest way to learn about the various settings is to experiment with the values and then take a look at the result in the preview. The bargraph settings examples may contribute to better understanding, too.

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Reference
Determine the bargraphs origin here.

Variable
A variable can be assigned to the bargraph here, which is updated with the current bargraph value and automatically displayed when the bargraph is shown. The variable may use the placeholders $ and #, where $ represents the sign, # a digit of the current bargraph value (example: if current bargraph value is 5, variable containing "$##V" is displayed as "+ 5V“).

Enter 0 if no variable is to be used.

Orientation
Determine here, whether the bargraph is to be oriented horizontally (bar moves right/left) or vertically (bar moves up/down).

Style
Determine the bargraphs display style here.

Multi colour: The bargraph is drawn as a bar with coloured bands, which correspond to the colour boundaries settings.

Single colour: The bargraph is drawn as a single coloured bar. Its colour is determined by the current value and the colour boundaries settings.

1 pixel line, 3 pixel line, 5 pixel line, ...: Instead of a bar, at the current values' position a line with the specified width is drawn. As is also the case with single colour style, its colour is determined by the current value and the colour boundaries settings.

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Bar colour
Determine the bargraphs base colour here. If the current value does not exceed any colour boundary, the bar (or line) is drawn using this colour.

Rest colour
Determine the colour here, which is used to draw the area that is not part of the bar (or line) or the bargraph border.

Border colour
Determine the colour of the bargraphs border here. If "transparent" is selected, no border is drawn.

Colour Boundaries
Determine the colour here, which is applied to the bar when the current bargraph value exceeds the corresponding boundary.

For further information please refer to the online help

Bargraph settings examples
A simple bargraph is defined here, which represents values in the range from 0 to 100. The bar and the border are drawn yellow, the remaining area is black.

Minimum: 0
Maximum: 100
Reference: 0
Orientation: horizontal
Stile: single colour
Bar Colour: yellow
Border Colour: yellow
RestColour: black
Colour Boundaries: 100 yellow, 100 yellow, 100 yellow, 100 yellow

25: 50: 75:

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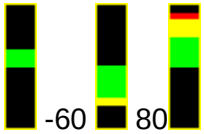
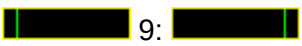
A bargraph is defined here, which represents values in the range from -100 to +100. The bar foot point is in the middle. The bar area from -50 to +50 is drawn green, the areas from +51 to +75 and from -51 to -75 are drawn yellow, the areas from +76 to +100 and from -76 to -100 are drawn red.

Minimum: -100
Maximum: 100
Reference: 0
Orientation: vertical
Style: multi colour
Bar Colour: green
Border Colour: yellow
Rest Colour: black
Colour Boundaries: -75 red, -50 yellow, 50 yellow, 75 red

25  -60 80

A bargraph is defined here, which represents values in the range from 0 to 10. At the current values position a 1 pixel wide line is drawn. If the current value is greater than 7, then the line is drawn red, otherwise green.

Minimum: 0
Maximum: 10
Reference: 0
Orientation: horizontal
Style: 1 pixel line
Bar Colour: green
Border Colour: yellow
Rest Colour: black
Colour Boundaries: 7 red, 10 red, 10 red, 10 red

1:  9:

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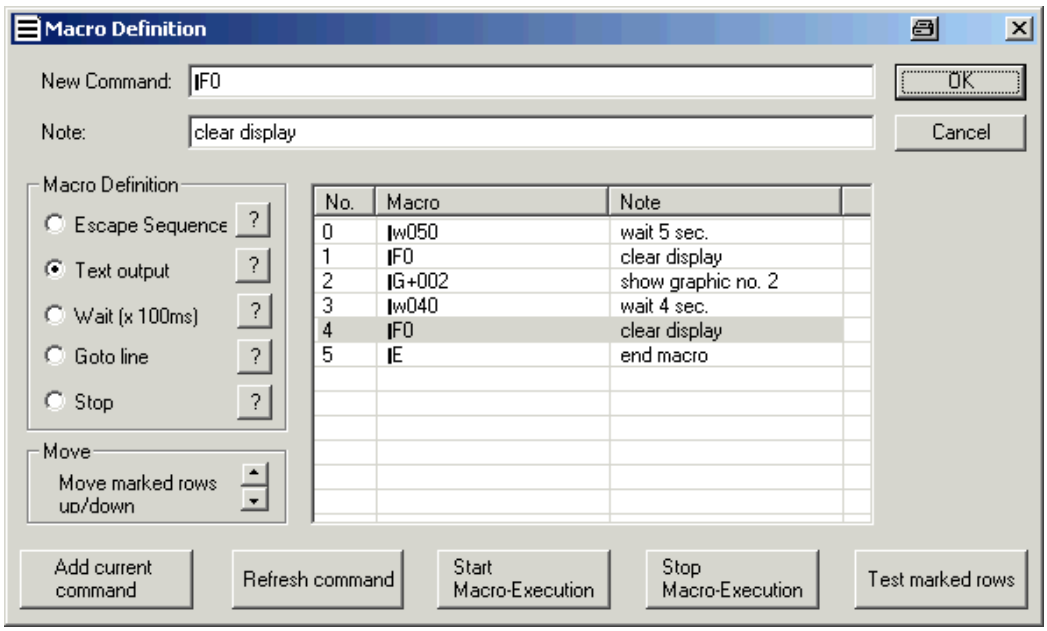
3.6 Macros

3.6.1 Dialog

You can enter a list of macro commands which are worked off in lines when switching the migra on.
The macro execution can be started (and stopped) at any time with the help of online frames as of a particular line number (see chapter „Macros“ of the migra user’s manual).



Procedure:

1. Select a desired option (see following description).
2. Input the required parameters into the entry field “New Command” and a comment in the entry field “Note”, if desired.
3. Confirm the entries with the button „Add current command“. Then, the command is entered at the end of the list or ahead of the highlighted line.
4. After creating the macro list, transmit it to the display by pressing „Start Macro-Execution“.

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The execution of the macro list in the display can be restarted at any time by pressing the button “Start Macro-Execution”.
The execution of the macro list in the display can be stopped at any time by pressing the button “Stop Macro-Execution”.

With the button “Refresh command” a macro or a note can be changed afterwards whenever you like. Therefore the corresponding macro within the macro list must be selected by a double click. This macro with its note appears in the entry fields and can then be edited. By clicking the button “Refresh command” the changes are transmitted to the macro list.

With the button “Test marked rows” the selected macro is sent to the display and executed directly. Even several macros can be selected and sent to the display in order to test complete sequences.

The buttons “▲“ and “▼“ serve for changing the sequence of the macro list. Therefore a corresponding macro has to be selected, which is moved one line up or down.

By clicking a macro with the right mouse button, a menu with the functions „Cut“, „Copy“, „Paste“ and „Delete“ is shown.

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Escape Sequence
After selecting this option, you can input various commands into the entry field (see chapter „Description of the Data Unit for Online Frames“ of the migra user’s manual).

Tip:
If using a display with a vertical resolution of more than 64 pixels, the number for graphics must be entered with 4 digits, for texts, variables etc. the number must have 3 digits (f.e. G+0021, T+021)
At displays with a vertical resolution of up to 64 pixels, the number for all elements must be inputted with 3 digits (f.e. G+021, T+021).

Text Output
After selecting this option, you can enter a text into the entry field, which shall appear on the display later. The text appears at the current cursor position with the current colour in the current character set.

Wait (x100ms)
After selecting this option, you can enter a value into the entry field. When executing this macro command, a time of [value in entry field] x 100 ms is waited and then, the macro execution is continued.

Goto Line
After selecting this option, you can input a value into the entry field. The macro execution is continued at the specified line number.

Stop
The macro execution is stopped. At the end of the macro list, this command can also be left out.

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3.6.2 Example

Desired function:

1. Wait for 5 seconds
2. Delete the display
3. Display graphic number 2
4. Wait for 4 seconds
5. Delete the display
6. Stop the macro execution

Procedure:

1. Select option „**Wait (x100ms)“.**
   Input „**50“** into the entry field.
   Press the button „**Add“.**

2. Select option „**Escape Sequence “.**
   Input „**F0“** into the entry field.
   Press the button „**Add“.**

3. Select option „**Escape Sequence“.**
   Input „**G+002“** into the entry field.
   Press the button „**Add“.**

4. Select option „**Wait (x100ms)“.**
   Input „**40“** into the entry field.
   Press the button „**Add“.**

5. Select option „**Escape Sequence “.**
   Input „**F0“** into the entry field.
   Press the button „**Add“.**

6. Select option „**Stop“.**
   Press the button „**Add“.**

By pressing the button „**Start Macro-Execution**“, the macro list is transmitted to the display. After the next power on, the macros are executed in succession.

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3.7 Import / Export

The micon software has functions for the import and the export of text files (CSV files). This CSV files can be processed with Microsoft Excel.

If exporting, the current project is saved to a text file (CSV file). The file name can be specified by the user. After that, this CSV file can be processed with Microsoft Excel.

If you do an import, the user can select a text file (CSV file), which is loaded by the software. With the data of this text file, a new project is created.
With this the user has the possibility to create complete projects with Microsoft Excel, which can be transmitted to the display with the help of the micon software.

The text files contain a special format, which must be strictly abided.

The text files contain several sections for the particular objects of the object list:

[Fonts]
[Texts]
[Variables]
[Graphics]
[Bargraphs]
[Macros]

Per line, an object with is corresponding data fields is applied like specified within the micon software.

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Example:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	[Fonts]																						
2	Designation	Width	Height	Start	End	Descender	Info	Note															
3	50mm_30mm	6	8	32	255	0																	
4	75mm_40mm	7	11	32	255	0																	
5	100mm_55mr	11	15	32	255	0																	
6																							
7																							
8	[Texts]																						
9	Designation	X-Pos	Y-Pos	Font	Spaced char	Text color	Background	Blink	Direction	Info	Note												
10	TEXT0	0	0	50mm_30mm	off	yellow	black	off	no														
11	TEXT1	0	8	50mm_30mm	off	red	black	off	right														
12	TEXT2	34	0	50mm_30mm	off	green	black	on	no														
13																							
14																							
15	[Variables]																						
16	Designation	X-Pos	Y-Pos	Length	Font	Spaced char	Text color	Background	Info	Note													
17	V0	0	0	2	50mm_30mm	on	red	black															
18	V1	0	8	2	50mm_30mm	on	yellow	black															
19	V2	18	3	2	75mm_40mm	on	green	black															
20	V3	40	1	2	100mm_55mr	off	yellow	black															
21																							
22																							
23	[Graphics]																						
24	Designation	X-Pos	Y-Pos	Width	Height	Blink	Info	Note															
25	Micro.bmp	0	0	18	16	off																	
26	Micro2.bmp	32	0	16	16	off																	
27																							
28																							
29	[Bargraphs]																						
30	X-Pos	Y-Pos	Width	Height	Min	Max	Reference	Variable	Adjustment	Style	Token color	Residuary color	Frame color	Color limit1	Color limit2	Color limit3	Color limit4	Color1	Color2	Color3	Color4	Info	Note
31	2	2	60	12	0	100	0	none	horizontal	multicolor	red	green	yellow	100	100	100	100	yellow	yellow	yellow	yellow		
32																							
33																							
34	[Macros]																						
35	Macro	Note																					
36	□w050																						
37	□F0																						
38																							
39																							
40																							

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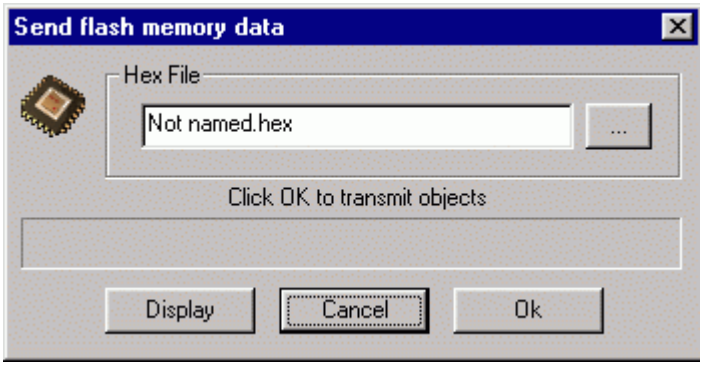
4 Testing the display online

4.1 Send configuration

Your configuration must be transmitted to the display first, before the Online Tools can be used to test it. Select the Send Configuration command from the Project menu. The following dialog appears:



Normally you will simply accept the suggested Hex File name. This feature is primarily intended for display software update purposes. Press the [OK] button to start the download process. **The current configuration must not exceed the maximum flash size, which is 64 KB (at a vertical resolution of up to 64 pixels) resp. 448 KB (at a vertical resolution of more than 64 pixels) at this moment.**

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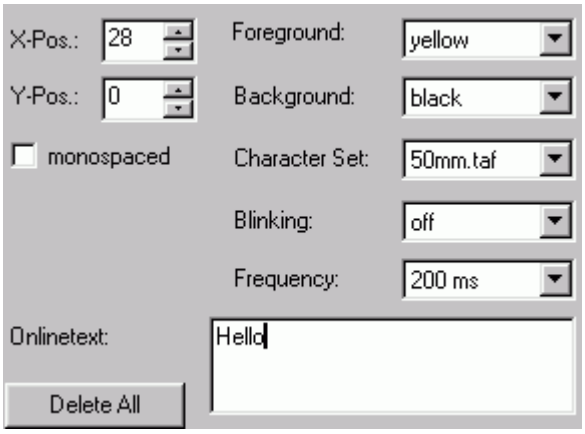
4.2 Display onlinetext

Select the *Display Onlinetext* command from the Online menu. The dialog area appears as follows:



Select position, foreground colour, background colour and character set desired. Furthermore you can specify, whether you want the characters to blink. If so, determine the desired frequency, too. All characters entered in the *Onlinetext* field appear at the display corresponding to your settings.

Please take into consideration that the *Onlinetext* edit box can contain only a limited number of characters. If you want to display more characters, simply delete the field's contents. New characters can then be entered again and are displayed at the current cursor position.

Blink frequency setting also affects texts defined with the "Blinking" attribute set.

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4.3 Show and hide text

Select the *Show and Hide Text* command from the Online menu. The dialog area appears as follows:

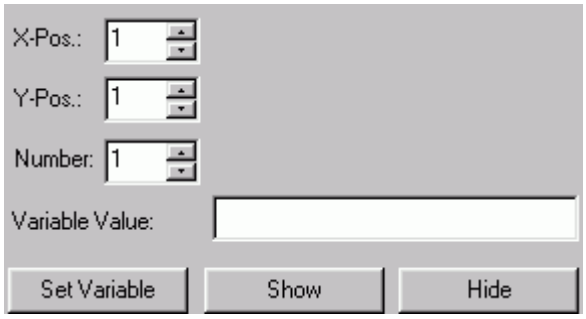
Enter the number of the desired text and press the [Show] or [Hide] button.

The Moving *Texts* dropdown list is used to specify the moving speed for all texts that have been defined with the "Moving Text" attribute set.

Moving texts are not simulated within the screen preview.

4.4 Set and position variable

Select the *Set and Position Variable* command from the *Online* menu. The dialog area appears as follows:



This tool is used to show and hide a variable and to set its current value and position.

Select the number of the desired variable first.

The [Show] button makes the variable appear at its current position displaying its current value. The variable can be removed from the display by pressing the [Hide] button. The [Set variable] button sets the variable's value according to the *X-Pos., Y-Pos.* and *Variable Value* settings.

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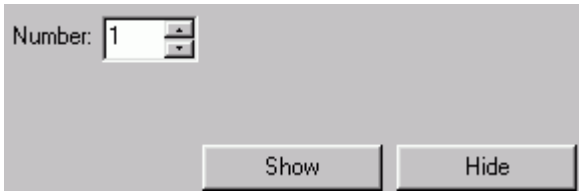
4.5 Show and hide graphic

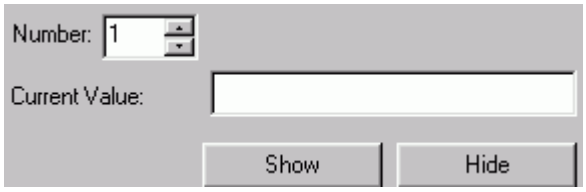
Select the *Show and Hide Graphic* command from the Online menu. The dialog area appears as follows:



Enter the number of the desired graphic and press the [Show] or [Hide] button.

4.6 Show and hide bargraph

Select the *Show and Hide Bargraph* command from the Online menu. The dialog area appears as follows:



Enter the number of the desired bargraph and specify the value to be displayed. Press the [Show] button to display the bargraph and the variable assigned to it.

The bargraph and the assigned variable are removed from the display by pressing the [Hide] button. The *Current Value* setting does not care when a bargraph is hidden.

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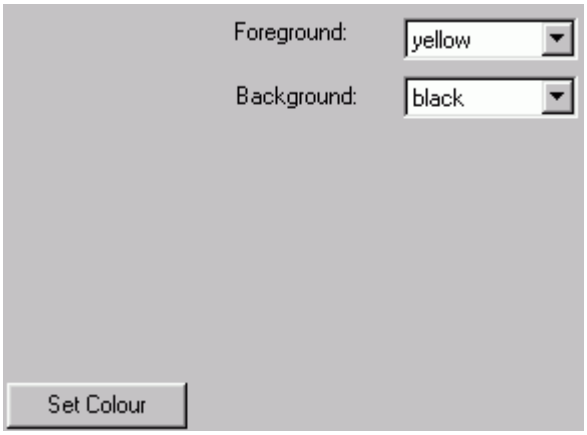
4.7 Fill with colour

Select the *Fill with Colour* command from the Online menu. The dialog area appears as follows:



The entire display is filled with the selected foreground colour by pressing the [Set Colour] button.

Clicking the left button within the preview area has the same effect. If you use the right button instead, the display is filled with the current background colour.

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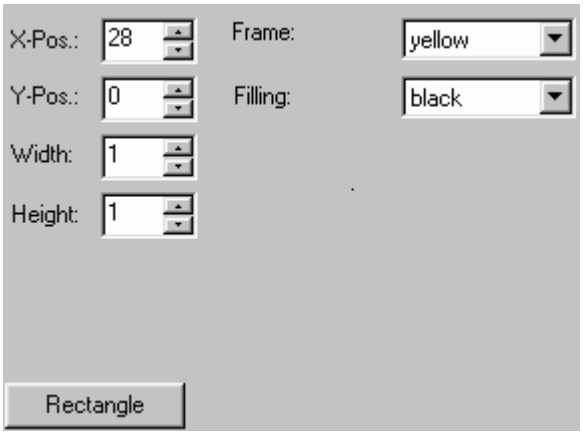
4.8 Draw a rectangle

Select the Draw a Rectangle command from the Online menu. The dialog area appears as follows:

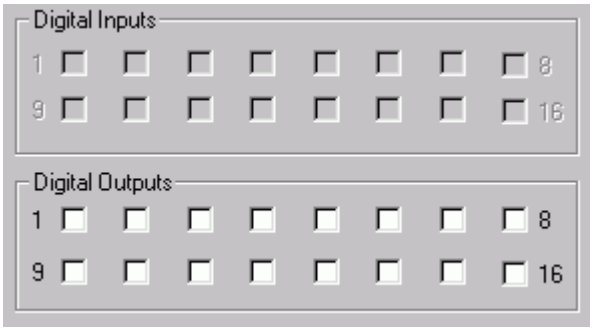


This tool is used to draw rectangles at the display. Specify the desired position, size and colour and then press the [Rectangle] button.

The top left corner can be specified by clicking the left mouse button at the desired position within the preview area. The right button is used for the bottom right corner of the rectangle.

4.9 Show digital I/O

Select the *Show Digital I/O* command from the Online menu. The dialog area appears as follows:



The migra large format displays can be optionally equipped with digital inputs and outputs (only at sizes up to 4x4 display modules). This tool is used to view the current input status and to set the output signals.

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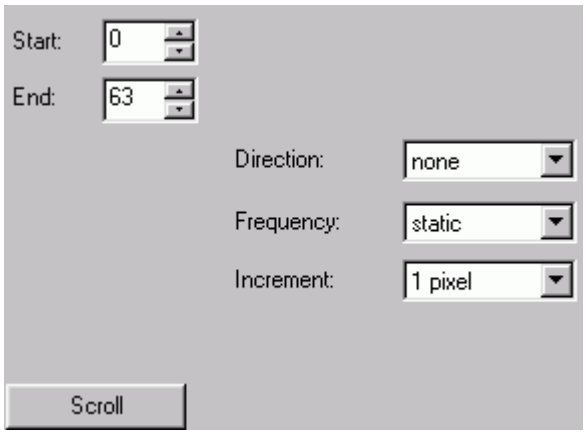
4.10 Scroll vertically

Select the Scroll vertically command from the Online menu. The dialog area appears as follows:



This tool is used to scroll a selected display region vertically.

First specify the region (lines) to scroll. Direction determines whether to scroll up, down or not at all. Furthermore scrolling Frequency (speed) and Increment can be selected.

The [Scroll] button transmits your settings to the display.

Scrolling is not simulated within the screen preview.

4.11 Adjust Brightness

Select the Adjust Brightness command from the Online menu. The dialog area appears as follows:

This tool is used to set the intensity of red and green LEDs. The changes are immediately sent to the display.

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5 Short reference

5.1 Project menu commands

New (Ctrl+N)	Creates a new project based on the *standard.mig* template
Open (Ctrl+O)	Opens an existing project
Save (Ctrl+S)	Saves the current project
Save As	Saves the current project to a specified file name
Send Configuration (F2)	Sends the current project to the display
Readout Configuration (F3)	Reads the project stored in the migra display
Properties (Ctrl+Enter)	Opens the properties dialog box which allows for adjusting interface parameters and setting the properties of your display
Import	Reads in a text file (CSV-File) and creates a new project
Export	Saves the current project as text file (CSV file)
Print	Prints the list of elements defined in the current project
Exit (Alt+F4)	Ends the application.

5.2 Edit menu commands

The Edit menu offers commands to create and remove elements.

New Text	Creates a new text
New Variable	Creates a new variable
New Graphic	Creates a new graphic
New Character Set	Creates a new character set
New Bargraph	Creates a new bargraph
Edit Note	Edit the data fields “SPS-Info” and “Note”
Delete (Ctrl+Del)	Deletes the selected element
Macros	Creates command sequences, which are automatically executed after display reset. For advanced users only.

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5.3 Online Menu commands

The Online menu offers commands to test the current configuration.

Display Onlinetext	Sends characters entered to the display
Show and Hide Text	Shows and hides predefined texts
Show and Hide Graphic	Shows and hides graphics
Set and Position Variable	Shows variables and allows to set the current value
Show and Hide Bargraph	Shows and hides bargraphs and sets the value to be displayed
Fill with Colour	Fills the entire display with the selected colour
Draw a Rectangle	Draws a rectangle
Show Digital I/O	Shows digital inputs status and allows to modify the outputs (optional)
Scroll vertically	Lets the selected display area scroll vertically
Adjust Brightness	Sets the brightness of the red and green LEDs
Delete All (ESC)	Clears the entire display.

5.4 View menu commands

Toolbar	Shows and hides the toolbar
Statusbar	Shows and hides the statusbar
Refresh (F5)	Refreshes the screen preview.

5.5 Help menu commands

Online Manual (F1)	Shows the online manual
migra Boot Software Info	Shows information about migra boot software and flash memory
migra Application Info	Shows migra application software version information
PC Software Info	Shows information about micon.

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5.6 Version overview

Version	Date	remark, description
1.00	11/20/00	
4.11	11/27/00	(German, 3.11)
4.20	12/18/01	Kreuzer: Properties dialog updated
4.30	3/20/02	Kreuzer: Further information's to chapter 2.1 (Installation)
4.40	12/9/02	Kreuzer: New Logo
4.50	10/29/03	Kreuzer: Macros
5.10	9/15/04	Kreuzer: Macro editor, import/export function, object numbering, column for comment, Properties
5.11	4/12/05	Kreuzer: Dialog "Editing texts" changed
5.12	6/8/05	Kreuzer: New setting "HMS-Interface"
5.13	7/28/05	Kreuzer: Max. resolution: 256 x 192 pixels
5.14	3/19/13	Company address
5.16	3/11/15	SC/MC removed
5.17	9/1/15	Info to the display resolution

Certified per **DIN EN ISO 9001**.

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